

The basic logistic interface of Participatory Democracy: secure, anonymous cell phone-voting

Paul Cockshott, Karen Renaud

¹School of Computer Science
University of Glasgow

Hanoi 2017

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

- Ancient direct democracy
- American Democracy
- Communist Democracy.
- German Social Democracy

Ideas of
Democracy

Ancient direct
democracy
American
Democracy
Communist
Democracy.
German Social
Democracy

Technology for direct democracy

- Handivote

Technology for
direct democracy
Handivote

Economic votes

- A mechanism
- A problem
- Field Trials of Handivote

Economic votes
A mechanism
A problem
Field Trials of
Handivote

Conclusions

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy

American Democracy

Communist Democracy.

German Social Democracy

Ideas of
Democracy

**Ancient direct
democracy**

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for direct democracy

Handivote

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Conclusions

Assemblies of the people

Paul Cockshott,
Karen Renaud



Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

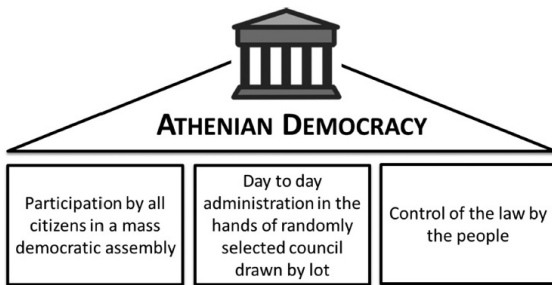
A problem

Field Trials of
Handivote

Conclusions

Principles of Ancient Democracy

It is worth understanding what democracy originally meant to the Athenians . Three principles were enshrined



Control of the law by the people meant that courts were controlled by large randomly selected juries. There were no professional judges.

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy

American
DemocracyCommunist
Democracy.

German Social
Democracy

Technology for direct democracy

Economic votes

A mechanism

A problem

Field Trials of Handivote

Conclusions

Random selection

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy

American Democracy

**Communist
Democracy.**

German Social
Democracy

Technology for direct democracy

Handivote e

Economic votes

A mechanism

A problem

Field Trials of Handivote

Conclusions



Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy

American Democracy

Communist Democracy.

German Social Democracy

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for direct democracy

Handivote

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Conclusions

Republicanism

Paul Cockshott,
Karen Renaud

But unheroic though bourgeois society is, it nevertheless needed heroism, sacrifice, terror, civil war, and national wars to bring it into being. And in the austere classical traditions of the Roman Republic the bourgeois gladiators found the ideals and the art forms, the self-deceptions, that they needed to conceal from themselves the bourgeois-limited content of their struggles and to keep their passion on the high plane of great historic tragedy. (Marx 1852)

The American republican model, from which all subsequent bourgeois republics were derived was a conscious copy of the Roman not the Athenian state.

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

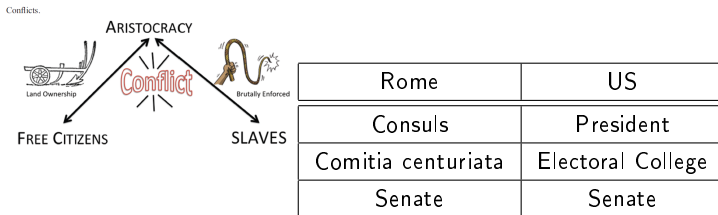
A problem

Field Trials of
Handivote

Conclusions

Political system of the Roman and US republics

Paul Cockshott,
Karen Renaud



The constitution adapted to this class system survives to the present.

The Roman constitution was cleverly designed to give the semblance of power to these free citizens whilst actually concentrating real power in a senatorial class.

All electoral systems end up selecting members of the upper classes. These people have the skills, money and connections to be selected as candidates. Trump, a billionaire is the epitome of this process.

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy

American Democracy

Communist Democracy.

German Social Democracy

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

**Communist
Democracy.**

German Social
Democracy

Technology for direct democracy

Handivote

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Conclusions

Immediate Aim Democracy

Paul Cockshott,
Karen Renaud

- ▶ *The immediate aim of the Communists is the same as that of all other proletarian parties: formation of the proletariat into a class, overthrow of the bourgeois supremacy, conquest of political power by the proletariat.*
- ▶ *We have seen above, that the first step in the revolution by the working class is to raise the proletariat to the position of ruling class to win the battle of democracy.*

The proletariat was not yet a class. It was to be formed as a distinct class in society by the process of political struggle. It was political struggle that would make a mass of individuals act in a collective way for their common interest. The proletariat must conquer political power, it must become the ruling class. The raising of the proletariat to the position of ruling class is identified with *the winning of democracy*.

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

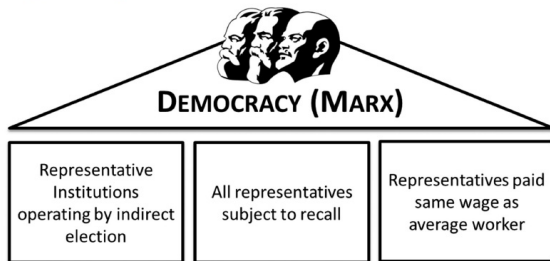
Field Trials of
Handivote

Conclusions

Influence of Paris Commune

Paul Cockshott,
Karen Renaud

In 1870 a democratic rebellion took place in the city of Paris that led to what was called the Commune of Paris, a commune being the French unit of local government. The constitutional structure set up by the Commune had a big influence on Marx's thinking about democracy and through Marx, influenced constitutional thought in the USSR.



Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

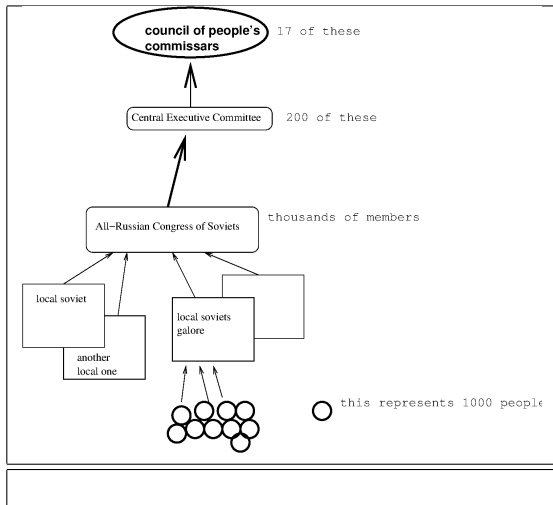
A problem

Field Trials of
Handivote

Conclusions

Russian Social Democracy

Paul Cockshott,
Karen Renaud



Ideas of
Democracy

Ancient direct
democracy

American
Democracy

**Communist
Democracy.**

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Soviet soviet indirect election system favours 1 party state

- ▶ Suppose that an RSDLP member was 50 times more likely to be nominated and 4 times more likely to be elected if nominated than a random non party citizen.
 - ⇒ This gives 200 fold over representation of RSDLP members in the local soviets. If the RSDLP made up one in a thousand of the Russian population, they would already make up 20% of the local soviets.
 - ⇒ Indirect elections amplify any inequalities in votes at lower level.
 - ⇒ Total domination of the council of commissars by the RSDLP
 - In the long run this dominance by one party led to the vitiation of soviet democracy so that there was no grass roots opposition to Yeltsin's destruction of the USSR

Paul Cockshott,
Karen Renaud

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

**Communist
Democracy.**

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

Ancient direct democracy
American Democracy
Communist Democracy.
German Social Democracy

Ideas of Democracy

Ancient direct
democracy
American
Democracy
Communist
Democracy.
**German Social
Democracy**

Technology for direct democracy

Handivote

Technology for direct democracy Handivote

Economic votes

A mechanism
A problem
Field Trials of Handivote

Economic votes A mechanism A problem Field Trials of Handivote

Conclusions

Conclusions

1. Direct legislation through the people, by means of the rights of proposal and rejection. Selfdetermination and selfgovernment of the people in realm, state, province and parish. Election of magistrates by the people, with responsibility to the people. Annual voting of taxes.
2. Education of all to bear arms. Militia in the place of the standing army. Decision by the popular representatives on questions of war and peace. Settlement of all international disputes by arbitration.

Note this is still very radical and involves direct participatory democracy - something that later Social Democracy forgot.

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

- Ancient direct democracy
- American Democracy
- Communist Democracy.
- German Social Democracy

Ideas of Democracy

- Ancient direct
democracy
- American
Democracy
- Communist
Democracy.
- German Social
Democracy

Technology for direct democracy

Handivote

Technology for direct democracy

Handivote

Economic votes

- A mechanism
- A problem
- Field Trials of Handivote

Economic votes

- A mechanism
- A problem
- Field Trials of
Handivote

Conclusions

Conclusions

Need for New Democracy

Paul Cockshott,
Karen Renaud

It is clear that we can not get everyone into a town square to vote on everything, so how can the original Social Democrat objective of reviving ancient democracy : legislation by the people and popular votes on taxes and expenditure be done now?

We present some techniques that can be used either at a state level, or at the level of citizens resistance to undemocratic state decisions.

- ▶ Electronic Plebiscites
- ▶ Budget Plebiscites

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Requirements of evotes

1. Accessible
2. Anonymity of votes
3. Verifiability
4. Freedom from manipulation

Paul Cockshott,
Karen Renaud

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

The most accessible device for electronic communication is not the computer but the mobile phone.

Computers have the disadvantages that they are:

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Complex, one can not be sure that voting software preserves anonymity - there could be a back channel to the secret police saying who votes which way.

Paul Cockshott,
Karen Renaud

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

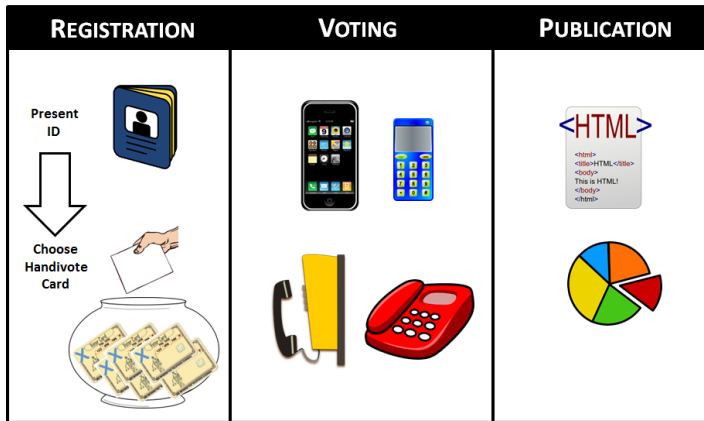
Field Trials of
Handivote

Conclusions

Expensive - internet computers are not as widely used as phones

Handivote System

Paul Cockshott,
Karen Renaud



Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

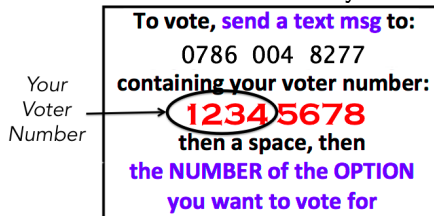
Field Trials of
Handivote

Conclusions

Experimental Voting card

Paul Cockshott,
Karen Renaud

Cards like this are selected by voters from a basket.



If your number was 4423 0796
and you want to vote yes you send 4423 0796 1
if you want to vote no you send 4423 0796 2

Ideas of Democracy

Ancient direct democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of Handivote

Conclusions

- ▶ Vote by sending an SMS message with your card id.
- ▶ Since nobody knows the ID this is anonymous.
- ▶ Verification by publication of which card ids voted which way. You can check vote correctly recorded.
 - ▶ For example the website shows
 - ▶ NUT Yes Votes
 - ▶ 0008 0051 0055 0132 0145 0156 0157 0186 0209 0247
0265 0296 0306 0321 0332 0347 0352 0360 0420 ...
 - ▶ Only the leading digits are shown, but the leading digits are unique to your card
 - ▶ Vote still anonymous since nobody else knows your number

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

- Ancient direct democracy
- American Democracy
- Communist Democracy.
- German Social Democracy

Ideas of Democracy

- Ancient direct
democracy
- American
Democracy
- Communist
Democracy.
- German Social
Democracy

Technology for direct democracy

- Handivote

Technology for direct democracy Handivote

Economic votes

- A mechanism
- A problem
- Field Trials of Handivote

Economic votes

- A mechanism**
- A problem
- Field Trials of
Handivote

Conclusions

Conclusions

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

- ▶ The above system is ok for voting on yes no questions.
What about voting on economic questions
- ▶ Here we need to balance expenditure against taxes.
- ▶ This is true in both capitalist and socialist economies, in the latter case we measure expenditure in labour time and tax peoples labour accounts.
- ▶ How can the people vote on this?

Give a range of resource options

Paul Cockshott,
Karen Renaud

For more complicated votes you could have several phone numbers for the different options

For example

<i>Phone number</i>	<i>Topic</i>	<i>Change</i>
xxx xx00	tax	down 5%
xxx xx01	tax	leave as is
xxx xx02	tax	up 5%
xxx xx10	Libraries	down 5%
xxx xx11	Libraries	leave as is
xxx xx12	Libraries	up 5%
xxx xx20	Schools	down 5%
xxx xx21	Schools	leave as is
xxx xx22	Schools	up 5%

We then work out the average change in expenditure and taxes that people want.

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

- Ancient direct democracy
- American Democracy
- Communist Democracy.
- German Social Democracy

Ideas of Democracy

- Ancient direct
democracy
- American
Democracy
- Communist
Democracy.
- German Social
Democracy

Technology for direct democracy

- Handivote

Technology for direct democracy Handivote

Economic votes

- A mechanism
- A problem**
- Field Trials of Handivote

Economic votes A mechanism **A problem** Field Trials of Handivote

Conclusions

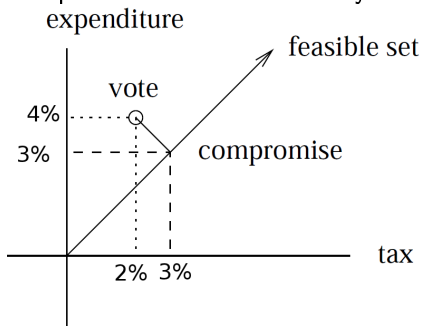
Conclusions

Problem!

Will people simply vote to spend more than they vote in taxes?

Well you can solve this mathematically by a formula in analytic geometry which I will not go into here but simply show a picture illustrating how it works.

Suppose people vote to increase expenditure by 4% and only increase taxes by 2%. the geometric procedure works out the compromise: increase both by 3%.



Paul Cockshott,
Karen Renaud

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Outline

Paul Cockshott,
Karen Renaud

Ideas of Democracy

- Ancient direct democracy
- American Democracy
- Communist Democracy.
- German Social Democracy

Ideas of Democracy

- Ancient direct
democracy
- American
Democracy
- Communist
Democracy.
- German Social
Democracy

Technology for direct democracy

- Handivote

Technology for direct democracy Handivote

Economic votes

- A mechanism
- A problem
- Field Trials of Handivote

Economic votes A mechanism A problem Field Trials of Handivote

Conclusions

Conclusions



Kelvinside Meadow Opinion Poll

Consulting residents about the future of the North Kelvin Meadow and Childrens Wood (The old Clouston St football pitches)



Neilston Opinion Poll

Consulting residents about the future of the Kingston Playing Fields green space



NUT Voting

The National Union of Teachers has Handivote to allow their members to vote by SMS

Paul Cockshott,
Karen Renaud

Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy

Handivote

Economic votes

A mechanism

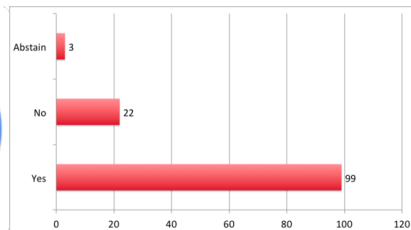
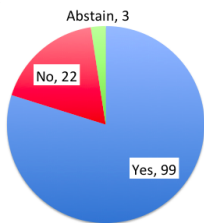
A problem

Field Trials of
Handivote

Conclusions

Results displayed graphically on phones

Paul Cockshott,
Karen Renaud



Ideas of
Democracy

Ancient direct
democracy

American
Democracy

Communist
Democracy.

German Social
Democracy

Technology for
direct democracy
Handivote

Economic votes

A mechanism

A problem

Field Trials of
Handivote

Conclusions

Conclusions

Paul Cockshott,
Karen Renaud

- ▶ Direct democracy is now feasible on many issues
- ▶ It allows the working people to have direct control over the state
- ▶ In the long run classes act in their own self interest, so only direct control by the working people ensures the state serves that class
- ▶ Mobile phone technology provides a way of doing this
- ▶ Votes can be held even on complex issues involving quantities of expenditure.



Ideas of Democracy

Ancient direct democracy

American
DemocracyCommunist
Democracy.German Social
Democracy

Technology for direct democracy

Handivote

Economic votes

A mechanism

A problem

Field Trials of Handivote

Conclusions